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AULTMAN & TAYLOR

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JAN 1977  
- The Real -

# Gasoline Traction Engine



## The Aultman & Taylor Machinery Co.

Patentees and Manufacturers

Mansfield,

-

Ohio



# SHERMAN ROOM

Reference Collection



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in this building*



## SOME FACTS ABOUT THE "AULTMAN-TAYLOR"— THE REAL GASOLINE TRACTION ENGINE

THE use of gasoline for motive power is past the experimental stage. Nearly every person is acquainted with the fact that gasoline when used for automobile engines or gasoline engines, for whatever purpose they are employed, is a powerful and reliable factor.

The Aultman-Taylor Gasoline Traction Engine has made for itself an enviable record. Efforts have been made to misrepresent gasoline engines. Our purpose is to present a few facts, dimensions and figures regarding the gasoline traction engine that we believe will be of interest to those who desire to use an engine past the experimental stage and fully developed for practical purposes. With the same persistent effort that has brought our line of steam threshing machinery so decidedly to the front, we have followed out our course of designing, building and testing out our gasoline engine before we offered it to our customers.

Our engine has been designed by competent men; has been built by practiced machinists; tested by men really expert in their line of work; has been used successfully by men whose opinion is above question and whose report on work they have accomplished will be submitted cheerfully to any person who may desire to have it. *Our engineers* were able to profit by the experience of other men in the business of building a gasoline engine. *Our engineers* have designed other gasoline engines and drew from them all of their good points which were incorporated in the building of our engine. The result of this effort and this experimenting has been the production of an engine which has gone on the field, been sold on its merits in the face of bitter opposition and misrepresentation by those who had and have experiments to sell in place of really tested out, tried and reliable gasoline engines.

*THE AULTMAN-TAYLOR MACHINERY CO., MANSFIELD, O.*

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For steadiness of operation when the engine is running, and the traction part standing still, the Aultman-Taylor Gasoline Traction Engine has won the favorable comments of men who are building gasoline engines of a different type than our own. We are presenting these facts and dimensions for the purpose of bringing to the attention of prospective buyers of gasoline engines, a few words which will protect them against false reports and misrepresentation.

Read the statements in this booklet carefully, consider them at your leisure, then, if you contemplate the purchase of a gasoline engine, it is worth your while to

make careful inquiry, locate our nearest engine at work, go to see it, and satisfy yourself of its efficiency.

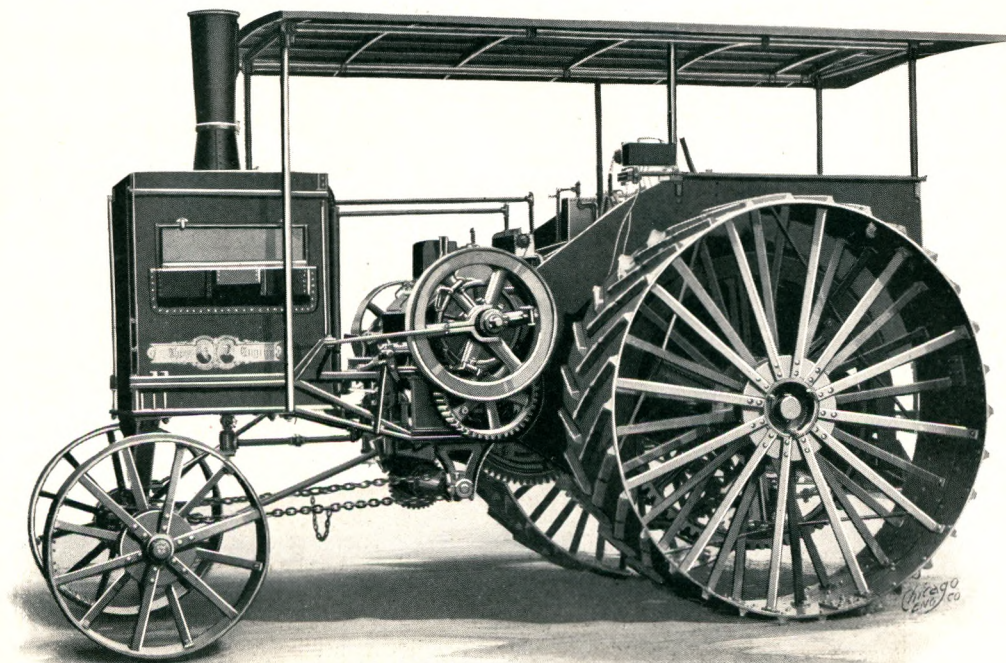
Our engine has been tested thoroughly in every kind of work, under the most trying conditions, under the belt in threshing, on the road in hauling, on the field in plowing, under a rigid brake test, and in no one particular has the engine ever been found to be wanting. What more of an endorsement can you ask? All we suggest is a careful reading of our specifications, and would refer you to page 13 of this catalogue for some of the points of superiority of the Aultman-Taylor Gasoline Traction Engine.





*THE AULTMAN-TAYLOR MACHINERY CO., MANSFIELD, O.*

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"AULTMAN-TAYLOR" GASOLINE ENGINE.

## THE "AULTMAN-TAYLOR" GAS TRACTOR

**Motor.** Four-cylinder, four-cycle type; cylinders cast in pairs, arranged parallel and in horizontal position. Being cast in pairs, the weight is lessened, perfect water circulation provided, greater rigidity with fewest joints to be secured by bolts and a simple water and carburetor connection.

**Cylinders.** Cast from a special mixture of close grained gray iron of the proper chemical analysis so that they will wear smooth and hard as glass; a vast improvement over soft, coarse-grained cast iron.

**Cylinder Heads.** Cast in pairs and secured to the cylinders by heavy stud bolts and provided with copper inserted nondestructible packing. Are readily removed in order to clean out carbon deposits in the combustion chambers. In order to secure best results from any gasoline engines, carbon deposits must not be permitted.

**Combustion Chambers.** Finished throughout, so that their entire surface is smooth and there are no pockets to hold smoldering gases, which would prevent rapid and complete combustion.

**Valves.** Seated in the heads with large sweeping openings which offer no resistance whatever to the flow of gases.

**Water Jacket.** Surrounding the internal surface

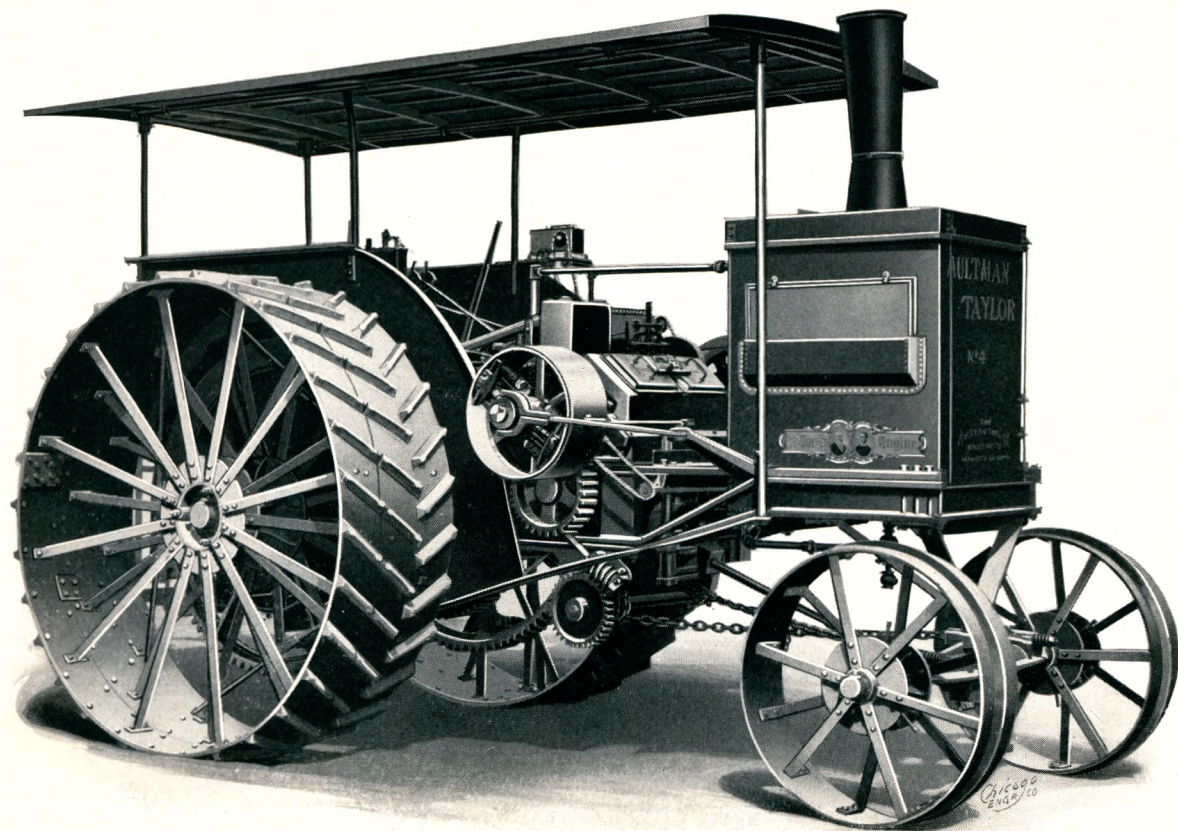
of the cylinders and combustion chambers. The water jacket is also carried around the valves which keeps them all at an even temperature and insures against breaking or cutting out valve seats.

**Pistons.** Cast from the same grade of special grade iron as used in the cylinders. They are provided with four snap rings which are made from a special mixture of hard gray iron, are re-turned and ground to the exact size of the cylinder after they are cut, which makes them fit closely and wear evenly. The piston pins are made of a high-grade steel, hardened, tempered and ground.

**Motor Base or Crank Case.** Cast of heavy gray iron and has the lower bearings of the crank and cam shafts cast as a part of the case. This insures perfect alignment. The case is provided with an oil-tight and dust-proof cap. This cap, when removed, permits the crank, cam-shaft, connecting rod and pistons, in fact, all the interior parts of the motor, to be withdrawn from the crank case without disturbing any other parts or adjustment.

**Cover or Cap** is also provided with large hand-holes, covered by plates, easily and quickly removed, for inspecting the crank pins. The plates can be removed while the engine is running.





"AULTMAN-TAYLOR" GASOLINE ENGINE—Pulley Side. Note Convenient Access to Crank Case.

**Crank** is extra large, of ample strength and made of special steel. Is provided with extra long end bearings and a center bearing, the bottom part of these three bearings being a part of the solid crank case. The lower parts of the bearings are babbitted and the upper parts, which take the thrust and receive the greatest amount of wear, are made of a special grade of bronze. These are interchangeable and new ones can be put in, in a very few minutes in case it is necessary to do so. The main bearings are adjustable from the outside of the case and are so easily accessible that they may be adjusted while the motor is running.

**Crank Pin Bearings** are babbitted with genuine babbitt and the caps are secured to the connecting rod by bolts which are provided with slotted nuts, permitting very fine adjustment and absolutely prevents the nuts from coming loose.

**Connecting Rod** has adjustable bearings on the piston pin which is provided with a bronze bushing which is very easily removed and replaced by a new one if necessary.

**Valves** are all mechanically opened by plungers which are provided with hardened rollers, operated by pins made of special steel, hardened and ground. The cam rollers work on hardened pins which reduce the friction and wear to a minimum. The *valve timing* will

practically *never need adjustment after leaving the factory.*

**Motor Speed** is automatically controlled by a centrifugal governor which is driven by gears enclosed in the crank case and absolutely protected from dust. The governor acts directly upon the throttle valve and the speed may be varied from one to five hundred revolutions by simply moving a lever which is set near the steering wheel.

**Carburetor** of the floating ball type; has no spring air valves; no spring adjustments and in fact requires no adjusting whatever except to change the amount of gasoline fed to the motor.

**Fuel** is carried in a large reservoir placed under the platform and below the engine, and is pumped into a small reservoir above the motor by an automatic pump. This method has every advantage over the old way of carrying the fuel reservoir high above the engine where it is difficult to support and very inconvenient to fill.

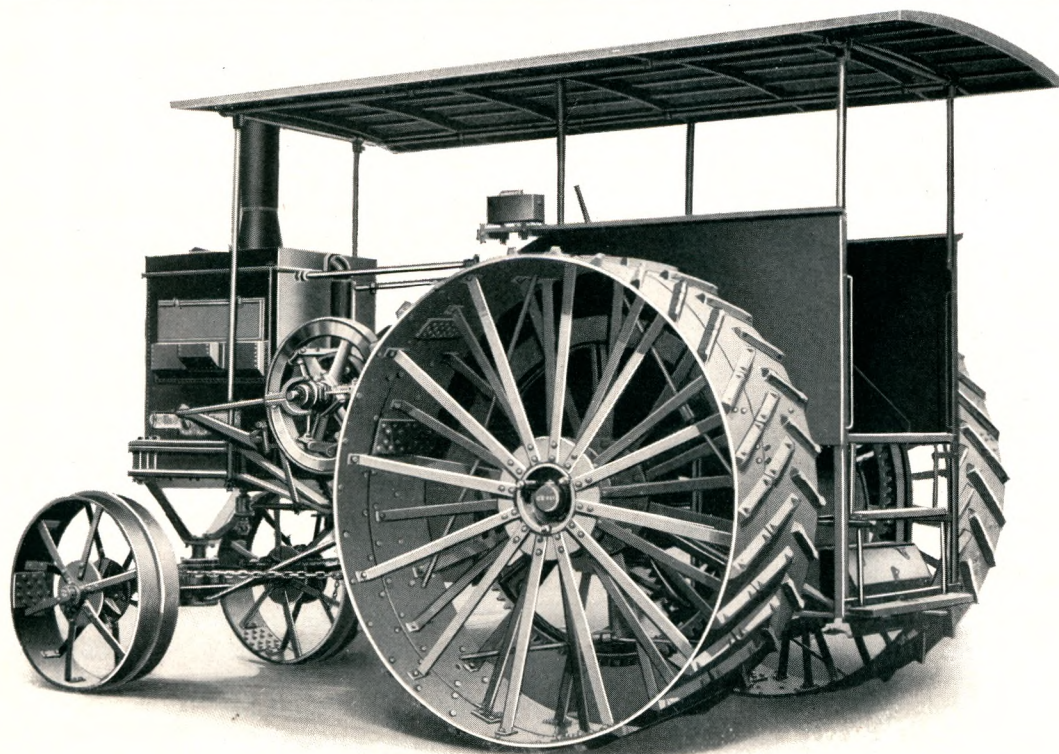
**Battery and Magneto Systems** are both provided for ignition.

**Battery** consists of fifteen primary battery cells, hermetically sealed in water-tight cases so that there is no possibility of their becoming damaged by moisture, and will last for an indefinite time when the battery is used for starting only.



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"AULTMAN-TAYLOR" GASOLINE ENGINE. Specially Constructed wheel. Malleable Cleats.

**Magneto** of the low tension type and of the simplest construction, having no brushes or commutators to adjust. It is positively driven by cut gears direct from the camshaft of the motor and is provided with water- and dust-proof cover.

**Wires** are carried from the magneto to the spark plug through a metal tube, which prevents them from becoming damaged or in any way short circuited. This obviates one of the old annoying troubles of a gas engine.

**Spark Plugs** are set in the head and are easily removed. Any type of standard spark plug can be used. They can always be secured from any engine dealer at a very reasonable price.

**Lubrication.** One of the most important features in a motor of any kind. In order to insure perfect lubrication, we provide a multiple force feed oil pump which forces a definite amount of oil through an individual tube to each bearing and also to each cylinder.

**Crank Pins** are positively oiled by centrifugal oil rings fastened on the crank. These rings receive their oil from the force feed pump and force it directly to the crank pin bearings. This system insures continual feeding of fresh oil to the cylinder and all the bearings. This is a decided advantage over the antique splash system which used the same oil over and over again.

**Transmission** is all spur gears, of extra wide face,

simple in construction. The power is taken from the motor by a steel pinion,  $4\frac{1}{2}$ -inch face,  $1\frac{1}{2}$ -inch pitch, on the crank shaft, which pinion drives the differential gear through steel intermediate gear, both having  $4\frac{1}{2}$ -inch face and  $1\frac{3}{4}$ -inch pitch. The differential gear is of semi-steel. The intermediate gear is of cast steel.

**Bull Pinions** are all steel,  $5\frac{1}{2}$ -inch face,  $2\frac{1}{4}$ -inch pitch.

**Bull Gears** are semi-steel, provided with hubs and spokes to insure centering. They have heavy adjustable torsion rods by which they are securely fastened to the rims of the drivers and take up all of the driving strain.

**Reverse Pinions** are of cast steel with extra wide faces.

**Gear Oiling.** The gearing and all the transmission bearings are oiled by multiple force feed pump, which drives a definite amount of oil to each bearing and is positively driven from the countershaft so that it operates only when the engine is traveling. This system has every advantage over the gravity system, which provides no positive feed of oil. The old method did not feed at all in cold weather and must be operated by the engineer whenever the engine is in operation.

**Controlling Mechanism** is very simple. The forward and backward movement of the engine, also the belt pulley, are controlled by two clutches which are operated



by one lever. The forward traction clutch is of the universal controlling type, and is provided with three leather-faced shoes which are interchangeable and may be replaced in a very few minutes. The clutch is very easily adjusted, always under entire control of the operator, enabling him to move the engine any desired distance he chooses. The clutch is self-locking so that it requires no effort to hold the clutch in or out and thus does away with all wear on the clutch lever.

**Backing up Gear** and the belt-pulley are operated by the same clutch which is of the internal expanding type and clutches directly on the under side of the pulley rim. This clutch is provided with extra wide hardwood shoes and is easily adjustable. *This method of controlling both clutches and the belt-pulley with one lever is protected to Aultman-Taylor Gasoline Engines by patents.*

**Frame** of locomotive truss type, built of heavy steel bars and channels. The heavy steel bars provide plenty of stock for receiving the bolts, preventing them from shaking loose, or wearing in the holes, as is often found in channel iron. The truss construction makes the frame very rigid and permits of *no vibration of the engine when in operation.*

**Wheels.** Rear wheels of the built-up steel type, have extra heavy steel rims; hubs with heavy flat steel spokes, double riveted; outer end of spoke is shouldered against the rim. Inner end of spoke fits in a pocket in

the hub to which it is firmly riveted. No shearing of rivets or loose spokes can ever result from this method of construction. The wheels are 90 inches in diameter, 20-inch face, with malleable cleats of the staggered type riveted on the rims. Ten-inch extension wheels with spokes and cleats can be used.

Front wheels are 44 inches in diameter, 12-inch face. Of the built-up type and of the same rigid construction as the rear wheels.

**Rear Axles.** Of the full length, live axle type, provided with extra long truck bearings.

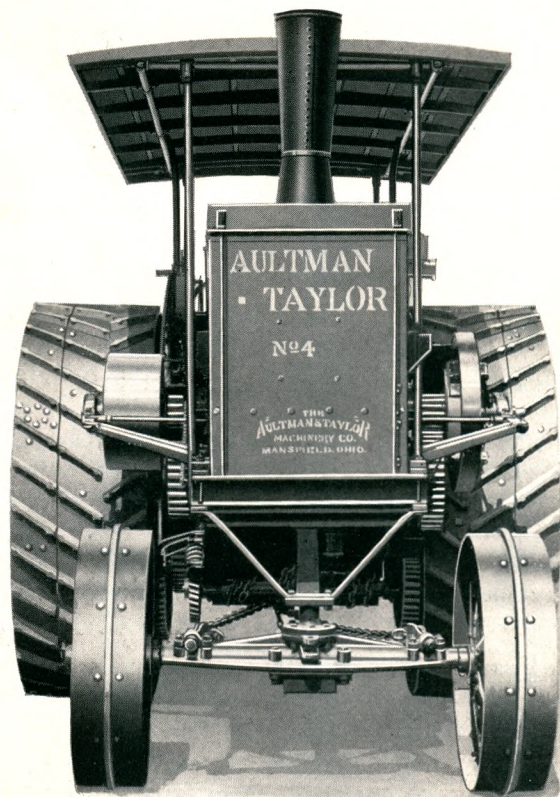
**Levers.** But one lever is used for both forward and backward movement. In center position of quadrant, the lever is neutral; throwing it forward engages the clutch for the forward movement; throwing the lever back operates the mechanism for the backward movement of the engine.

**Speed.** The engine runs at 500 revolutions per minute. Speed on road at 500 revolutions per minute is 2.2 miles per hour.

**Platform.** The operating platform is over the rear axle and of sufficient height to enable the operator to see both the front wheels and the plows.

**Shields.** The bull gears and pinions are covered over top and sides to protect them from the dust.

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"AULTMAN-TAYLOR" GASOLINE ENGINE—Front View.  
Trussed Frame Construction

**Dimensions and Measurements.** Countershaft bearings,  $3\frac{3}{4}$  inches diameter by 9 inches long.

Crankshaft bearings,  $3\frac{1}{4}$  inches diameter by  $5\frac{1}{2}$  in. long on fly wheel side;  $3\frac{3}{8}$  inches long in center of crank case; 6 inches long on drive pulley side.

Intermediate shaft-bearings, 3 inches diameter by  $7\frac{1}{2}$  inches long.

**Rear Axle Dimensions.**  $4\frac{1}{4}$  inches diameter by 103 inches long.

**Cam Shaft.**  $1\frac{3}{8}$  inches diameter, cold rolled steel, has three bearings.

**Cam Shaft Bearings.**  $1\frac{1}{8}$ -in. face, case hardened.

**Crank Pins.** Same diameter as crank shaft,  $3\frac{1}{4}$  inches diameter, by  $3\frac{1}{4}$  inches long.

**Cooling Tank.** Capacity, 140 gallons of water.

**Crank Shaft.** High carbon steel, forged from solid piece,  $3\frac{1}{4}$  inches diameter, very heavy cheek-supporting crank pins.

**Cylinders.** Four in number,  $7 \times 9$  inches, cast in pairs, placed horizontally in the engine.

**Speed of Engine.** 500 R. P. M.



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**Dimensions over all.**

Extreme height to top of exhaust stack, 11 ft. 4¼ in.

Extreme length of engine, 17 ft. 5¼ in.

Extreme width with 20-inch drivers, 107 in.

**Exhaust.** The exhaust is a 2½-inch diameter opening out through the cylinder head. The exhaust pipe pumps to a manifold from the cylinders and is run from there back through the cooling system.

**Fuel.** Sixty-gallon gasoline tank placed under the platform.

**Gearing.** Crank-shaft pinion and intermediate for forward movement are steel, 1½-inch pitch, 4½-in. face.

Crank-shaft pinion for backward movement, steel, 1¾-inch pitch, 3-inch face.

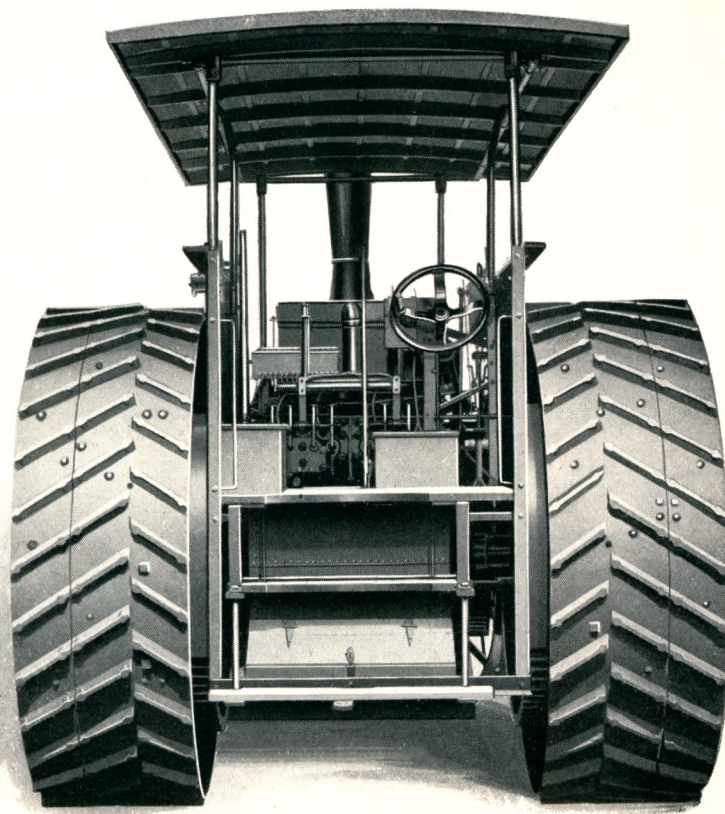
Intermediate gear meshing for differential, steel, 1¾-inch pitch, 4½-inch face.

Differential gear, semi-steel, 1¾-inch pitch, 4½-inch face.

Bull pinion and bull gear, 2¼-in. pitch, 5½-in. face.

Bull pinions all of steel, bull gears semi-steel.

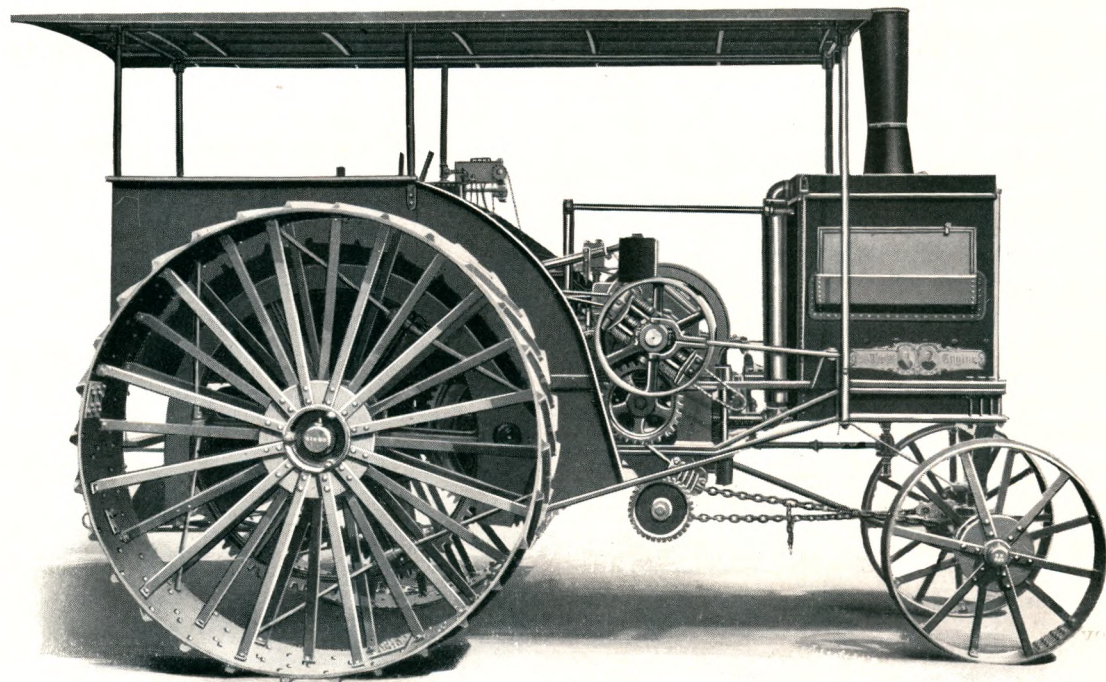
**Drive Pulley** is 24 inches diameter by 11-inch face.



"AULTMAN-TAYLOR" GASOLINE ENGINE—Rear View.  
Note Lever Steering Wheel and Ready Access to All Parts of the Engine

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"AULTMAN-TAYLOR" GASOLINE ENGINE. Exhaust Through Water Cooling System.



## A FEW OF THE POINTS OF SUPERIORITY IN THE "AULTMAN-TAYLOR" GAS TRACTOR

It has the *most effective cooling system* ever used.

A *more rigid frame and less vibration* than any other.

The *surest and simplest oiling system*.

The *crank case and all bearings* are easily accessible.

The *drivers* are very high, giving a better purchase in pulling.

The *gears* are especially strong of ample width and proper pitch.

The *single lever control* is our own patent and used exclusively by us.

The *gasoline tank* being under the platform is out of the way—firmly fastened and easy to fill.

The *crank and cam-shafts* and all interior parts of crank case can be removed without disturbing any other parts.

The *bearings* are all of extra length—easily accessible and adjustable.

## THE "AULTMAN-TAYLOR" GAS TRACTOR

*Combining as it does—simplicity and strength in all its parts—symmetrical design—great pulling power—ease of operation—and economy of fuel—Can be depended upon to do more plowing in a given length of time—with less expense and more satisfaction to its user than any other engine built for the purpose.*

*The experimenting has all been done and the engine is guaranteed by*

*The Aultman-Taylor Machinery Co.*

THE AULTMAN-TAYLOR MACHINERY CO., MANSFIELD, O.



PLOWING IN KANSAS

This engine pulled a number of plows which were abandoned by a gasoline engine on account of there being too much of a load.

**No reasonable load too much for an Aultman-Taylor Gasoline Engine.**

**No useless guarantee needed when you buy from an established firm with years of experience and a reputation for Quality Goods.**



This engine pulled one-third more plows.

Made one-fourth more rounds around the same field than another engine offered as competition when invited to a competitive exhibition.

Started promptly when desired.

### **REASONS**

**Used reliable gasoline for fuel.**

**Is properly built.**

**Not an experiment.**

**Fully and completely tested.**

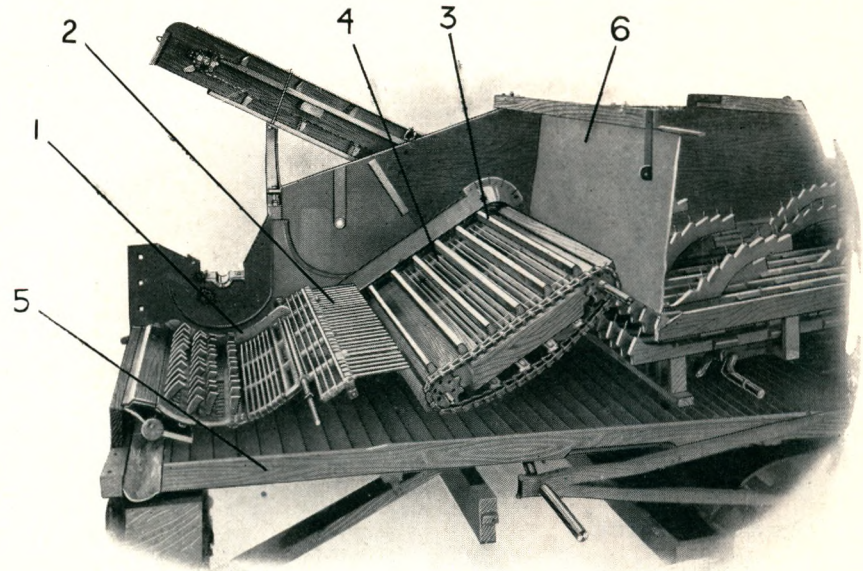
**Uses the only successful combustion fuel—gasoline.**



PLOWING IN ALBERTA, CANADA

THE AULTMAN-TAYLOR MACHINERY CO., MANSFIELD, O.

1. Open grate.
2. Wire fingers.
3. Open straw raddle.
4. Open grates under raddle.
5. Grain pan.
6. Canvas apron.



Cylinder removed to show Grates, Wire Fingers and Conveyor of New Century Separator

You will want to know more about the **only Separator which can be operated successfully with any gasoline engine---the New Century.** Write for our Catalog.



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# **The Aultman & Taylor Machinery Co.**

## **Mansfield, Ohio**

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**Only Manufacturers of**

**New Century Separators**

**Matchless Clover Hullers**

**Channel Mounted Steam Engines**

**Standard and Junior Saw Mills**

**Gasoline Traction Engines**

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**of**

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**RELIABILITY, DURABILITY and QUALITY**